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(54) **ENZYME SYSTEM COMPRISING AN ENZYME BONDED IN A POROUS MATRIX**

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(58) **Field of Classification Search** ................ 435/176, 435/177, 180, 182

See application file for complete search history.

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(57) **ABSTRACT**

A protein system is described in which a protein is bound within a matrix material that has pores that are sized to achieve excellent properties such as: activity, protein density, and stability. In a preferred embodiment, the pore sizes range from 50 to 400 Å. One protein that has demonstrated surprisingly good results in this system is OPH. This protein is known to degrade organophosphorus compounds such as are found in chemical weapons and pesticides. Novel methods of forming the protein system and methods of making OPH are also described.

**25 Claims, 3 Drawing Sheets**